



National Opportunity To Improve Infection Control in ESRD (NOTICE)

Infection Control Checklists

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Infection Control Checklists


This document contains two types of checklists addressing direct-care activities that are high risk for transmission of infections in the dialysis setting.

- (1) ICE (Infection Control Evaluator) checklists, for use by facility audit staff, on the following topics:
 - Access of Central Venous Catheter for Initiation of Dialysis
 - Central Venous Catheter Exit Site Care
 - Access of AV Fistula or Graft for Initiation of Dialysis
 - Parenteral Medication Preparation and Administration
 - Access of Central Venous Catheter for Termination of Dialysis
 - Access of AV Fistula or Graft for Termination of Dialysis and Post Dialysis Access Care
 - Cleaning and Disinfection of the Dialysis Station
 - Dialysis Supply Management and Contamination Prevention
- (2) Procedural checklists, for use by direct-care staff at the dialysis station, on the following topics:
 - Access of Central Venous Catheter for Initiation of Dialysis
 - Central Venous Catheter Exit Site Care
 - Access of Arterial Venous Fistula or Graft for Initiation of Dialysis
 - Parenteral Medication Storage, Preparation, and Administration
 - Access of Central Venous Catheter for Termination of Dialysis
 - Access of Arterial Venous Fistula or Graft for Termination of Dialysis and Post-Dialysis Access Care
 - Cleaning and Disinfection of the Dialysis Station

In the appendix are information sheets on the following four topics:

- Hand Hygiene
- Infection Control and Prevention
- Recommended Infection Prevention Components of Quality Assessment and Performance Improvement
- Injection Safety/Safe Medication Handling

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ICE (Infection Control Evaluator) Checklists



ICE Checklist #1a: Access of Central Venous Catheter (CVC) for Initiation of Dialysis

**Checklist
#1a**

Certification Number: _____

Observation 1: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Observation 2: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Hand hygiene Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Assemble supplies for patient at dialysis chair (no common tray/cart brought to dialysis station) Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Hand hygiene Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Don clean gloves, gown, impermeable mask/eye protection or face shield Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Place clean field under CVC ports Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Scrub exterior of CVC hubs, with caps in place, with antiseptic (alcohol or povidone iodine or chlorhexidine) Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Remove port caps; wipe threads and top of uncapped hub with antiseptic, using friction, removing any residue/blood Note: If using "needleless" catheter system and connector device caps are not removed, scrub the injection port of the connector device Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Connect sterile syringes aseptically to each port to remove indwelling solutions and/or flush with sterile saline; initiate treatment; remove gloves Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Hand hygiene Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Observation 1 notes:
Observation 2 notes:

ICE Checklist #1b: Central Venous Catheter (CVC) Exit Site Care

Checklist
#1b

Certification Number: _____

Observation 1: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Observation 2: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Hand hygiene

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Assemble supplies for patient at dialysis chair (no common tray/cart at station)

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Don clean gloves, gown, mask, and eye protection; remove old dressing and discard; remove gloves

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Hand hygiene

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Don clean gloves; cleanse area around CVC exit site with chlorhexidine unless there is a contraindication; allow to dry before applying dressing

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Apply antimicrobial ointment to exit site unless there is a contraindication (e.g. patient hypersensitivity, bio-incompatibility with catheter material, or chlorhexidine-impregnated sponge dressing is used)

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Apply sterile dressing to CVC exit site; remove gloves

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Hand hygiene

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Observation 1 notes:

Observation 2 notes:

Checklist #1c

ICE Checklist #1c: Access of AV Fistula* or Graft for Initiation of Dialysis

Certification Number: _____

Observation 1: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Observation 2: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Hand hygiene Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Assemble supplies for patient at dialysis chair (no common tray/cart at station) Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Wash skin over access site with soap and water or antibacterial scrub Exception: Patient washed own access site after entering facility as verified by ICE observation or interview Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Locate/palpate cannulation sites; sites not touched again after skin antisepsis (at step 7) without repeating skin antisepsis Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Hand hygiene Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Don clean gloves; if not already wearing, don gown and impermeable mask/eye protection or face shield Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Scrub skin over cannulation sites with antiseptic; allow antiseptic to dry before cannulating; do not touch sites again after skin antisepsis without repeating skin antisepsis Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Insert cannulation needles; tape in place; initiate treatment; remove gloves Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Hand hygiene Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Observation 1 notes:
Observation 2 notes:

*Checklist not intended for observation of buttonhole cannulation technique

ICE Checklist #2: Parenteral Medication Preparation and Administration

Certification Number: _____

Observation 1: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Observation 2: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Hand hygiene before preparing medications

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Medications prepared in a clean area, on a clean surface, away from dialysis stations

Exception: Drawing saline syringes at dialysis station from patient's own clean saline bag, using aseptic technique

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Assemble supplies: sterile syringes, 70% alcohol swabs or other antiseptic, medication vials

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Single-dose vials used for one patient only and discarded (punctured only one time)

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Multiple-dose vials only entered with a new, empty sterile syringe and needle and discarded within 28 days unless manufacturer specifies a different (shorter or longer) date for that opened vial (see Information Sheet #4)

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Open one vial of each medication at a time; wipe stopper with alcohol or other antiseptic; withdraw medication into sterile syringe. May prepare meds for multiple patients at one time, but must administer to one patient at a time, leaving remainder of drawn meds in clean preparation area

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Label syringes that are predrawn and not immediately administered with patient name, medication, dose, time drawn; take only individual patient's medications to dialysis station

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Hand hygiene

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Don clean gloves; wipe injection port (or patient's skin if subcutaneous or intramuscular injection) with antiseptic (e.g., chlorhexidine, povidone iodine, iodophor, or 70% alcohol); inject medication

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Discard syringe into Sharps container at point of use; remove gloves

Exception: If using a needleless system with no attached needle, disposal in Sharps not necessary

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Hand hygiene

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Observation 1 notes:

Observation 2 notes:

ICE Checklist #3a: Access of Central Venous Catheter (CVC) for Termination of Dialysis

**Checklist
#3a**

Certification Number: _____

Observation 1: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Observation 2: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Hand hygiene Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Assemble supplies; don gloves, gown, impermeable mask/eye protection or face shield Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Place clean field under CVC ports Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Re-infuse extracorporeal circuit; remove gloves Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Hand hygiene Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Don clean gloves; scrub exterior of CVC hub with antiseptic Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Disconnect blood lines aseptically Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Scrub CVC hubs with antiseptic to remove any residue/blood; apply sterile port caps aseptically after post-treatment protocol Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Discard unused supplies; remove gloves Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Hand hygiene Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Observation 1 notes:
Observation 2 notes:

ICE Checklist #3b: Access of AV Fistula* or Graft for Termination of Dialysis and Post Dialysis Access Care

**Checklist
#3b**

Certification Number: _____

Observation 1: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Observation 2: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Hand hygiene Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Assemble supplies; don gloves, gown, and impermeable mask/eye protection or face shield Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Re-infuse extracorporeal circuit; disconnect bloodlines aseptically; remove gloves Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Hand hygiene Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Don clean gloves; remove needles aseptically ; discard needles in Sharps container at point of use; remove gloves; hold needle sites with clean gauze using clean gloved hands (patient and staff) or disinfected clamps Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
When hemostasis is achieved, replace any blood-soiled bandage(s) on needle sites; ensure bandage on each needle site is clean; dry site before discharge Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Discard unused supplies; remove gloves Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Hand hygiene Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/> Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/>
Observation 1 notes:
Observation 2 notes:

* Checklist not intended for observation of buttonhole cannulation technique

ICE Checklist #4: Cleaning and Disinfection of the Dialysis Station

Certification Number: _____

Observation 1: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Observation 2: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Note: In other health care settings, patients vacate treatment area before cleaning and disinfection.

Patient should be vacated from station before cleaning/disinfection of the machine/station unless contraindicated by patient condition. Clinical judgment must be exercised to determine appropriate practice for each patient, ensuring that the patient is fully stabilized prior to discharge.

Was the dialysis station vacated prior to cleaning/disinfection? Obs 1: Y ☐ N ☐ Obs 2: Y ☐ N ☐

<p>Machine: Don gown, gloves, impermeable mask/eye protection or face shield; remove all bloodlines and disposable equipment and discard in biohazardous waste; reprocess dialyzer, with all ports capped; transport dialyzer and bloodlines in a manner that prevents contamination of other surfaces; remove gloves</p> <p>Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p> <p>Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p>
<p>Hand hygiene</p> <p>Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p> <p>Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p>
<p>Don clean gloves; obtain EPA-registered disinfectant; use tuberculocidal disinfectant if blood is visible</p> <p>Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p> <p>Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p>
<p>Wipe all machine top, front, and side surfaces and dialysate hoses wet with disinfectant per manufacturer directions for use; if blood is visible, do second application of tuberculocidal disinfectant per manufacturer directions for use</p> <p>Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p> <p>Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p>
<p>Empty prime waste receptacle; wipe all internal and external surfaces wet with disinfectant per manufacturer directions for use</p> <p>Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p> <p>Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p>
<p>Chair: Vacated, fully reclined, all disposable supplies removed and discarded; with new disinfectant, wipe all external front-facing and side chair surfaces wet with disinfectant per manufacturer directions for use, including down sides of seat cushion and side tables</p> <p>Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p> <p>Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p>
<p>Nondisposable items: Blood pressure cuff, TV controls, call button, data entry station, and counters around station are cleaned and wiped wet with disinfectant</p> <p>Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p> <p>Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p>
<p>If clamps are used, clean of visible blood and dirt and disinfect</p> <p>Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p> <p>Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p>
<p>Discard cloth/wipe; remove gloves</p> <p>Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p> <p>Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p>
<p>Hand hygiene</p> <p>Obs 1: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p> <p>Obs 2: Met <input type="checkbox"/> Not Met <input type="checkbox"/></p>
<p>Observation 1 notes:</p>
<p>Observation 2 notes:</p>

ICE Checklist #5: Dialysis Supply Management and Contamination Prevention

Certification Number: _____

Observation 1: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Observation 2: Shift # _____ Staff Type _____ Isolation Y ☐ N ☐ Visible From Nursing Station Y ☐ N ☐

Supplies are stored and kept in designated clean areas, with sufficient distance from dialysis stations to prevent contamination from potentially infectious materials/substances

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Supplies for next patient are not brought to station before prior patient's treatment is terminated and applicable equipment (machine, chair) cleaned/disinfected

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Carts or trays containing supplies are not taken to or moved between dialysis stations

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Staff do not keep patient care supplies in pockets or on their person

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Nondisposable equipment (e.g., thermometer, pH/conductivity meter, access flow device, O2 saturation meter, blood glucose meter) brought to the dialysis station is cleaned and disinfected before being returned to a common area or taken to another dialysis station

Disinfection = all surfaces wiped with EPA-registered disinfectant per manufacturer's directions for use

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Multiple-dose medication vials are not taken to the dialysis station

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Disposable supplies taken to the dialysis station (whether they are/are not used on the patient) are discarded

Obs 1: Met ☐ Not Met ☐

Obs 2: Met ☐ Not Met ☐

Observation 1 notes:

Observation 2 notes:

Procedural Checklists




Access of Central Venous Catheter (CVC) for Initiation of Dialysis Procedural Checklist #1a

- ☐ Hand hygiene
- ☐ Assemble supplies for patient at dialysis chair (no common tray/cart brought to dialysis station)
- ☐ Hand hygiene
- ☐ Don clean gloves, gown, and impermeable mask/eye protection or face shield
- ☐ Place clean field under CVC ports
- ☐ Scrub exterior of CVC hubs, with caps in place, with antiseptic
- ☐ Remove port caps; wipe threads and top of uncapped hub with antiseptic, using friction, removing any residue/blood


Note: If using “needleless” catheter system and connector device caps are not removed, scrub injection port of connector device

- ☐ Connect sterile syringes aseptically to each port to remove in-dwelling solutions and/or flush with sterile saline; initiate treatment; remove gloves
- ☐ Hand hygiene

Note: If troubleshooting or manipulation of catheter or dialysis lines must occur during the dialysis treatment, then perform hand hygiene, don gloves and personal protective equipment, and disinfect CVC hub procedure as above with each manipulation.




Central Venous Catheter (CVC) Exit Site Care Procedural Checklist #1b

- ☐ Hand hygiene
 - ☐ Assemble supplies for patient at dialysis chair (no common tray/cart at station)
 - ☐ Don clean gloves, gown, mask, and eye protection; remove old dressing and discard; remove gloves
 - ☐ Hand hygiene
 - ☐ Don clean gloves and cleanse area around CVC exit site with chlorhexidine unless there is a contraindication; allow to dry before applying dressing
 - ☐ Apply antimicrobial ointment to exit site unless there is a contraindication or chlorhexidine-impregnated sponge dressing is used
 - ☐ Apply sterile dressing to CVC exit site; remove gloves
 - ☐ Hand hygiene
- 

Access of Arterial Venous Fistula of Graft for Initiation of Dialysis Procedural Checklist #1c

- ☐ Hand hygiene
- ☐ Assemble supplies for patient at dialysis chair (no common tray/cart at station)
- ☐ Wash skin over access site with soap and water or antibacterial scrub
Exception: Patient washed own access site after entering facility as verified by auditor observation or interview
- ☐ Locate/palpate cannulation sites; sites not touched again after skin antisepsis without repeating skin antisepsis
- ☐ Hand hygiene
- ☐ Don clean gloves; if not already worn, don gown, impermeable mask, and eye protection or face shield
- ☐ Scrub skin over cannulation sites with antiseptic; allow antiseptic to dry before cannulating; do not touch sites after skin antisepsis without repeating skin antisepsis
- ☐ Insert cannulation needles; tape in place; initiate treatment; remove gloves
- ☐ Hand hygiene

Note: This checklist is not intended for observation of buttonhole cannulation technique.




Parenteral Medication Storage, Preparation, and Administration Procedural Checklist #2

- ☐ Assemble supplies in clean area with clean surface away from dialysis station
- ☐ Hand hygiene
- ☐ Open one vial of each medication at a time
- ☐ Wipe stopper with alcohol or other antiseptic
- ☐ Withdraw medication into sterile syringe and label syringe


Note: May prepare for multiple patients at one time, but must administer to one patient at a time, leaving remainder of drawn meds in clean preparation area

- ☐ Take only individual patient's medications to dialysis station
- ☐ Hand hygiene
- ☐ Don clean gloves, wipe injection port with antiseptic
- ☐ Inject medication
- ☐ Discard syringe into Sharps container
- ☐ Remove gloves
- ☐ Hand hygiene

Note: This checklist is intended to address the infection control aspects of medication preparation and injection, and does not include requirements for verification of accuracy of medication administration (i.e. order verification, patient identification, documentation) or injection technique.




Access of Central Venous Catheter (CVC) for Termination of Dialysis Procedural Checklist #3a

- ☐ Hand hygiene
 - ☐ Assemble supplies; don gloves, gown, and impermeable mask/eye protection or face shield
 - ☐ Place clean field under CVC ports
 - ☐ Reinfuse extracorporeal circuit; remove gloves
 - ☐ Hand hygiene
 - ☐ Don clean gloves; scrub exterior of CVC hub with antiseptic
 - ☐ Disconnect blood lines aseptically
 - ☐ Scrub CVC hubs with antiseptic to remove any residue/blood; apply sterile port caps aseptically after post treatment protocol
 - ☐ Discard unused supplies; remove gloves
 - ☐ Hand hygiene
- 

Access of Arterial Venous Fistula or Graft for Termination of Dialysis and Post-Dialysis Access Care Procedural Checklist #3b

- ☐ Hand hygiene
- ☐ Assemble supplies; don gloves, gown, and impermeable mask/eye protection or face shield
- ☐ Reinfuse extracorporeal circuit; disconnect bloodlines aseptically; remove gloves
- ☐ Hand hygiene
- ☐ Don clean gloves; remove needles aseptically; discard needles in Sharps container at point of use; remove gloves
- Note:** Hold needle sites with clean gauze using clean gloved hands (patient and staff) or disinfected clamps
- ☐ When hemostasis is achieved, replace any blood-soiled bandage(s) on needle sites; ensure bandage on each needle site is clean and dry site prior to discharge
- ☐ Discard unused supplies; remove gloves
- ☐ Hand hygiene


Note: This checklist is not intended for observation of buttonhole cannulation technique.



Cleaning and Disinfection of the Dialysis Station Procedural Checklist #4

- ☐ Don gown, gloves, and impermeable mask/eye protection or face shield
- ☐ Remove all bloodlines and disposable equipment and discard in biohazardous waste; reprocess dialyzer, with all ports capped; transport dialyzer, bloodlines, etc. in a manner that prevents contamination of other surfaces; remove gloves
- ☐ Hand hygiene
- ☐ Don clean gloves; obtain EPA-registered disinfectant; use tuberculocidal disinfectant if blood is visible
- ☐ Wipe machine top, front, and side surfaces and dialysate hoses wet with disinfectant per manufacturer directions for use; if blood is visible, do second application of tuberculocidal disinfectant
- ☐ Empty prime waste receptacle: wipe all internal and external surfaces wet with disinfectant per manufacturer directions for use
- ☐ When chair is vacated, remove and discard all disposable supplies
- ☐ Fully recline chair and clean with disinfectant; wipe all external front-facing and side chair surfaces wet with disinfectant per manufacturer directions for use, including down sides of seat cushion and side tables
- ☐ Wipe all nondisposable items with disinfectant, including blood pressure cuff, TV controls, call button, data entry station, and counters around station
- ☐ If clamps are used, clean off visible blood and dirt and disinfect
- ☐ Discard cloth/wipe; remove gloves
- ☐ Hand hygiene

Note: Allow disinfectant contact time per manufacturer's recommendations for all checklist items. In other health care settings, patients vacate treatment area before cleaning and disinfection. This practice should be considered for dialysis facilities.



Appendix—Information Sheets



Hand Hygiene

Hand hygiene is the primary measure to reduce infections in the dialysis center. Adherence to accepted guidelines for hand hygiene has been shown to decrease the incidence of infections and prevent transmission of antimicrobial-resistant organisms and bloodborne pathogens.^{1,2} The World Health Organization has encouraged all health care facilities to adopt their 2009 guidelines, including the “My 5 Moments for Hand Hygiene” approach. According to this strategy, opportunities for hand hygiene can be stratified into five major activities.

5 Moments for Hand Hygiene in Health Care:

1. Before touching a patient
2. Before clean/aseptic procedure
3. After body fluid exposure
4. After touching a patient
5. After touching patient surroundings

Acceptable Methods of Hand Hygiene:

Soap and water

Technique: Wet hands with water, apply to hands an amount of soap recommended by the manufacturer, and rub hands together vigorously for at least 15 seconds, covering all surfaces of hands and fingers. Rinse hands with water and dry thoroughly with disposable towel. Use towel to turn off faucet. Avoid using hot water, because repeated exposure to hot water may increase the risk of dermatitis.

When to use:

- A. When hands are visibly dirty or soiled with blood or other body fluids.
- B. After contact with a patient with known *Clostridium difficile* infection.

Alcohol-based hand rub

Technique: Apply an amount of hand rub recommended by the manufacturer to palm of one hand and rub hands together. Cover all surfaces of hands and fingers until hands are dry.

When to use: This is the preferred means for routine hand hygiene in all clinical situations listed below.

Indications for Hand Hygiene Specific to Dialysis Centers:

- A. Before and after touching the patient
- B. Before handling an invasive device or performing any vascular access procedure
- C. After contact with body fluids, dialysate, mucous membranes, non-intact skin, or wound dressings
- D. If moving from a contaminated body site to another body site during care of the same patient, e.g., care of a wound followed by manipulation of a dialysis catheter
- E. After contact with environmental surfaces and objects (including medical equipment, dialysis machine) in the dialysis station
- F. Before handling medication or preparing food
- G. After removal of gloves

References

1. WHO Guidelines on Hand Hygiene in Health Care: First Global Patient Safety Challenge Clean Care is Safer Care. http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf. Accessed January 3, 2014.

2. Centers for Disease Control and Prevention. Guidelines for hand hygiene in health-care settings. MMWR 2002;51(RR 16) 1-45.

Infection Control and Prevention

A. Providing a sanitary environment

- All treatment-related areas, equipment and surfaces are kept free of blood, mold, and accumulation of dirt, dust and other potentially infectious materials.
 - Treatment-related areas include any areas accessible to patients or public and areas where dialysis supplies, equipment, and medications are stored, prepared, or processed.
 - There is a clear separation of clean and dirty work areas. Clean areas are used for storage and preparation of medications and unused supplies; dirty areas are used for contaminated equipment.
- Blood spills are promptly cleaned up with EPA-registered tuberculocidal hospital disinfectant per manufacturer directions for use, with a second application of same using a new wipe/cloth for contact time per directions.
- Infectious waste and Sharps are disposed in clearly marked, leak-proof receptacles. Sufficient numbers of infectious waste receptacles and Sharps are available in patient treatment areas at point of use to reduce potential for blood contamination of the patient care environment.
- Hand washing sinks and hand sanitizer dispensers are available in sufficient numbers for use by staff, patients and public to promote hand hygiene.
 - Hand washing sinks with warm water and soap for patient use in isolation room/area; home training room(s); reuse room; medication preparation area; and for every four to six in-center hemodialysis stations.

B. Preventing and managing a specific pathogen exposure

- **Hepatitis B**
 - Surveillance: Test all patients per CDC guidelines: prior to admission; ongoing testing as indicated by patient's immunity status; test results reviewed promptly and acted upon if indicated.
 - Vaccination: Offer vaccine to all susceptible patients and staff with followup testing for vaccine response
 - Management:
 - Isolate hepatitis B surface antigen positive (HBV+) patients for dialysis treatments in a dedicated isolation room. If an isolation room is not possible for facilities Medicare certified prior to October 14, 2008, use an isolation "area" separated from other dialysis stations by the width of one dialysis station.
 - Dedicate the isolation room/area for only HBV+ patient(s) when there is at least one such patient on census; all equipment and supplies are dedicated to the isolation room/area.
 - Staff caring for HBV+ patients must not care for HBV-susceptible patients at the same time, including the period when dialysis is terminated on one patient and initiated on another.
 - When the last HBV+ patient on census is discharged, terminal cleaning of the isolation room/area and equipment is required before use for non-HBV+ patient.
- **Hepatitis C**: Surveillance: Test all patients per CDC guidelines: prior to admission; ongoing testing as indicated by the patient's immunity status; test results reviewed promptly and acted upon if indicated.
- **Tuberculosis**: Surveillance: Baseline testing of all patients and staff with rescreening for symptoms. Develop contingency plan for management of patients with active tuberculosis infection.
- **Influenza**: Offer all patients and staff annual vaccination.
- **Pneumococcal pneumonia**: Offer all patients vaccination.
- **Modified Contact Precautions**:
 - Draining wound: Separation of wound care from any dialysis-related care; full personal protective equipment worn for wound care and discarded when completed; patient separation at a dialysis station with as few adjacent stations as possible; and dedicated gown for staff caring for patient(s) with noncontained draining wound(s).
 - Fecal incontinence: Separation of incontinence care from any dialysis-related care; full personal protective equipment worn for incontinence care and discarded when completed; patient separation at a dialysis station with as few adjacent stations as possible and dedicated gown for staff caring for patient(s) with uncontrolled diarrhea or fecal incontinence

Recommended Infection Prevention Components of Quality Assessment and Performance Improvement

The facility quality assessment and performance improvement (QAPI) program should implement ongoing and effective processes to prevent, detect and manage infections, with a goal of minimizing or eliminating healthcare-associated infections acquired at the facility. The following clinical and technical areas should be continuously monitored, with analysis of the available data, prompt recognition of adverse trends, and implementation of performance improvement activities to achieve and sustain measurable improvements:

1. Infection occurrence surveillance: Occurrences should be logged for—
 - a. All bloodstream infections, stratified by vascular access type. The Centers for Disease Control (CDC) National Healthcare Safety Network dialysis event rates should be measured.
 - b. All other positive culture results separated by location/site, including hemodialysis or peritoneal dialysis access exit site, wound, etc.

Sufficient information should be recorded for each occurrence, including patient identification, date of infection diagnosis (positive culture result), site of infection, infecting organisms with antibiotic sensitivities.
2. Disease-specific management should be addressed, with continuous monitoring, at a minimum for—
 - a. Hepatitis B and hepatitis C
 - i. Surveillance of all patients per CDC guidelines, including comprehensive investigation and reporting of seroconversions
 - ii. Vaccination program for hepatitis B-susceptible patients to ensure timely offer of vaccination and followup testing of vaccines for response. Vaccination offered to susceptible staff.
 - b. Tuberculosis surveillance of patients and staff
 - c. Influenza vaccination programs for patients and staff
 - d. Pneumococcal pneumonia vaccination program for patients
3. Vascular access prevalence aimed at minimizing central venous catheter (CVC) rates and achieving optimum arterial venous (AV) fistula use rates, including measuring CVC and AV fistula prevalence rates and AV fistula incidence rates
4. Staff education and visual practice audits
 - a. All facility staff receive initial and at least annual education in infection control pertinent to their job duties, using, at a minimum, the information and procedures in Checklists #1–5
 - b. Direct care staff are visually audited, using the "ICE Checklists" #1–5 monthly; each direct care staff visually audited at least annually
5. Patient education should be focused on informing patients about infection prevention through vascular access care/hygiene. Patients should be informed about what to expect of direct patient care staff practices for infection control, and should be empowered as active participants in ensuring their care is appropriate, with freedom to voice concerns without fear of reprisal.
6. Environmental/technical: Ensuring the microbial safety of hemodialysis by monthly evaluation of—
 - a. Water and dialysate cultures and endotoxin levels
 - b. Dialyzer reprocessing and reuse program (if applicable)
 - i. Reuse water source and reuse equipment cultures and endotoxins
 - c. Patient pyrogen reactions

Injection Safety/Safe Medication Handling

The Centers for Disease Control and Prevention (CDC) has identified 33 hepatitis outbreaks between 1998 and 2008 resulting from deficient health care practices. These outbreaks occurred in outpatient settings such as doctor's offices, outpatient clinics, dialysis centers, and nursing homes. Unsafe injection practices, such as reuse of syringes, accounted for most of the infections and exposures. In addition to viruses, unsafe practices when handling medications for injection can put a dialysis patient at risk of central line-associated bloodstream infections.

The following recommendations should be followed in all dialysis centers. They apply to the use of needles, cannulas that replace needles, and, where applicable, intravenous delivery systems:

- Use aseptic technique to avoid contamination of sterile injection equipment and supplies.
- Do not administer medications from a syringe to multiple patients, even if the needle or cannula on the syringe is changed. Needles, cannulae, and syringes are sterile, single-use items; they should never be reused for another patient.
- Do not enter any vial with a used syringe or needle.
- Decontaminate vial stoppers with antiseptic before entering a vial with a sterile needle
- Use fluid infusion and administration sets (i.e., intravenous bags, tubing, and connectors) for one patient only and dispose appropriately after use. Consider a syringe or needle/cannula contaminated once it has been used to enter or connect to a patient's intravenous infusion bag or administration set.
- Use single-dose vials for parenteral medications whenever possible.
- Do not administer medications from single-dose vials or ampules to multiple patients or combine leftover contents for later use.
- If multiple-dose vials must be used, both the needle or cannula and syringe used to access the multiple-dose vial must be sterile.
- Do not keep multiple-dose vials in the immediate patient treatment area and store in accordance with the manufacturer's recommendations; discard if sterility is compromised or questionable.
- Do not use bags or bottles of intravenous solution as a common source of supply for multiple patients.
- Medications should be prepared only in a dedicated medication area and never at the dialysis station.
- Medication vials should always be discarded whenever sterility is compromised or questionable.
- In addition, the United States Pharmacopeia (USP) General Chapter 797 recommends the following for multiple-dose vials of sterile pharmaceuticals:
 - If a multiple-dose vial has been opened or accessed (e.g., needle-punctured), the vial should be dated and discarded within 28 days unless the manufacturer specifies a different (shorter or longer) date for that opened vial.
 - If a multiple-dose vial has **not** been opened or accessed (e.g., needle-punctured), it should be discarded according to the manufacturer's expiration date.
- The manufacturer's expiration date refers to the date after which an unopened multiple-dose vial should not be used. The beyond-use date refers to the date after which an opened multiple-dose vial should not be used. The beyond-use date should never exceed the manufacturer's original expiration date.
- For information on storage and handling of vaccines, please refer to the CDC Vaccine Storage and Handling Toolkit or the manufacturer's recommendations for specific vaccines.

References

Centers for Disease Control and Prevention. CDC - Multi-dose vials - Safe Practices for Medical Injections FAQs - Injections Safety. www.cdc.gov/injectionsafety/providers/provider_faqs_multivials.html. Accessed January 3, 2014.

One & Only Campaign. What Are They & Why Follow Them? www.oneandonlycampaign.org/content/what-are-they-why-follow-them. Accessed January 3, 2014.